Amendments to the Claims:

1. (Currently Amended) A sensing assembly ~~characterized by~~ comprising a set of turns ~~(2)~~ of an electrical winding coil and an interaction element ~~(3)~~ adjustable by a user, the set of turns ~~(2)~~ and the interaction element ~~(3)~~ being movable in relation to each other, the set of turns ~~(2)~~ being subjected to a sampling voltage (V_P) and having a resistance (R_s),

the sensing assembly being suitable for ~~the use of~~ measurement of a temperature of an environment (Ts) and to define ~~the~~ a temperature set point of a cooling system,

the measurement of the temperature of the environment (Ts) being obtained from the alteration of the resistance (Rs) of the set of turns ~~(2)~~; and the definition of the temperature set point of the cooling system being obtained from the inductance (Ls) of the set of turns ~~(2)~~, by displacing the interaction element ~~(3)~~ with respect to the set of turns ~~(2)~~.

2. (Currently Amended) A sensing assembly according to claim 1, characterized in that the set of turns ~~(2)~~ is made from a material the resistivity of which varies with the temperature.

3. (Currently Amended) A sensing assembly according to claim 1, characterized in that the interaction element ~~(3)~~ is a ferromagnetic material of high magnetic permeability.

4. (Currently Amended) A sensing assembly according to claim 1, characterized in that the interaction element ~~(3)~~ is an electrically conductive material.

5. (Currently Amended) A sensing assembly according to claim 1, characterized by comprising an adjustment axle ~~(5)~~.

6. (Currently Amended) A sensing assembly according to claim 5, characterized in that the adjustment axle ~~(5)~~ penetrates the inside of the ~~ferromagnetic~~ interaction element ~~(3)~~ axially.

7. (Currently Amended) A sensing assembly according to claim 6, characterized in that the adjustment axle ~~(5)~~ is threaded.

8. (Currently Amended) A sensing assembly according to claim 7, characterized in that the adjustment axle ~~(5)~~ is operatively connected to a handle ~~(4)~~.

9. (Currently Amended) A sensing assembly according to claim 8, characterized in that the handle ~~(4) is preferably~~ comprises a knob.

10. (Currently Amended) A sensing assembly according to claim 9, characterized in that the interaction element ~~(3)~~ is provided with a through-bored and threaded material.

11. (Currently Amended) A sensing assembly according to claim 10, characterized in that the set of turns ~~(2)~~ is mounted around an adjusting and guiding device ~~(2a)~~.

12. (Currently Amended) A sensing assembly according to claim 11, characterized in that the adjusting and guiding device ~~(2a)~~ is defined by a cylinder ~~(2b)~~ and bored-through limiting ends ~~(2c)~~.

13. (Currently Amended) A sensing assembly according to claim 12, characterized in that the interaction element ~~(3)~~ penetrates the inside of the adjusting and guiding element ~~(2a)~~ axially.

14. (Currently Amended) A system for adjusting a temperature set point ~~adjusting~~ and for measuring a temperature of an environment (Ts) ~~measuring system~~ for a cooling system, the ~~adjusting and measuring~~ system comprising:

~~a sensing assembly (1);~~

- a processing unit ~~(20)~~;

~~the system (10) being characterized in that the~~ a sensing assembly ~~(1) comprises~~ connected to the processing unit and comprising a set of turns ~~(2),~~ and an interaction element ~~(3)~~ adjustable by a user, the set of turns ~~(2)~~ and the interaction element ~~(3)~~ being movable in relation to each other, the set of turns ~~(2)~~ being subjected to a sampling voltage (V_P) and having a resistance (R_s);

the ~~system (10)~~ processing unit measuring the temperature of the environment (Ts) from the alteration of the resistance (R_s) of the set of turns ~~(2)~~; and

the processing unit defining the temperature set point of the cooling system from the inductance (Ls) of the set of turns ~~(2)~~, obtained by displacing the interaction element ~~(3)~~ with respect to the set of turns ~~(2)~~.

15. (Currently Amended) A system according to claim 14, characterized in that the set of turns ~~(2)~~ is made from a material the resistivity of which varies with the temperature.

16. (Currently Amended) A system according to claim 14, characterized in that the interaction element ~~(3)~~ is a ferromagnetic material of high magnetic permeability.

17. (Currently Amended) A system according to claim 14, characterized in that the interaction element ~~(3)~~ is an electrically conductive material.

18. (Currently Amended) A system according to claim 16 ~~or 17~~, characterized in that the interaction element ~~(3)~~ displaces with respect to the inside of the set of turns ~~(2)~~.

19. (Currently Amended) A system according to claim 18, characterized in that the sensing assembly ~~(1)~~ comprises an adjustment axle ~~(5)~~.

20. (Currently Amended) A system according to claim 19, characterized in that the adjustment axle ~~(5)~~ penetrates the inside of the interaction element ~~(3)~~ axially.

21. (Currently Amended) A system according to claim 20, characterized in that the adjustment system ~~(5)~~ has ~~its~~ a surface that is threaded.

22. (Currently Amended) A system according to claim 21, characterized in that the adjustment axle ~~(5)~~ is operatively connected to a handle ~~(4)~~.

23. (Currently Amended) A system according to claim 22, characterized in that the handle ~~(4)~~ is a knob.

24. (Currently Amended) A system according to claim 16, characterized in that the interaction element ~~(3)~~ is provided with through-bored and internally threaded material.

25. (Currently Amended) A system according to claim 14, characterized in that the set of turns ~~(2)~~ is mounted around a guiding and adjusting device ~~(2a)~~.

26. (Currently Amended) A system according to claim 25, characterized in that the guiding and adjusting device ~~(2a)~~ comprises a cylindrical body ~~(2b)~~ provided with limiting borders ~~(2c)~~ at the end portions.

27. (Currently Amended) A system according to claim 26, characterized in that the interaction element ~~(3)~~ penetrates the inside of the guiding and adjusting element ~~(2a)~~ axially.

28. (Currently Amended) A method of adjusting the temperature set point of a cooling system and measuring the temperature of an environment (Ts), characterized by comprising the steps of:

- applying a known sampling voltage (V_P) to a known value resistor in series with ~~the~~ a set of turns ~~(2)~~;

- measuring the voltage obtained on the set of turns after a first measurement time (t_1) and a second measurement time (t_2); and

- determining the resistance (Rs) and the variable inductance (Ls) of the set of turns ~~(2)~~ from the voltage measurements made at the first and second measurement times (t1, t2) previously determined, and respectively obtaining the value of the temperature of the environment (Ts) from the resistance (Rs) and defining the temperature set point of the cooling system from the inductance (Ls) of the set of turns ~~(2)~~.

29. (Currently Amended) A method according to claim 28, characterized in that the step of determining the resistance (Rs) and the variable inductance (Ls)~~, such measurements are~~ is carried out by a processing unit~~ (20)~~.

30. (Currently Amended) A method according to claim 29, characterized in that the step of obtaining the variable inductance (Ls) of the set of turns ~~(2)~~ is carried out after passage of the first measurement time (t_1) previously determined.

31. (Currently Amended) A method according to claim 29, characterized in that the step of obtaining the resistance (Rs) of the set of turns ~~(2)~~ is carried out after passage of the second measurement time (t_2) previously determined.

32. (Currently Amended) A method according to claim 29, characterized in that, in the step of detecting the resistance value (Rs), a value of a temperature of the environment (Ts) is obtained and that, in the step of detecting the value of the variable inductance (Ls), the adjustment of the temperature set point is foreseen.